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09/733,385	12/04/2000	Steven J. Harrington	D/A0657	7423

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EXAMINER

LUDWIG, MATTHEW J

ART UNIT	PAPER NUMBER
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2178

DATE MAILED: 11/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/733,385

Applicant(s)

HARRINGTON, STEVEN J.

Examiner

Matthew J. Ludwig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to communications: Amendment A filed 8/2/04.
2. Claims 1, 3-8, 12, 17, 18, 19, and 20 remain rejected under 35 U.S.C. 102(e) as being anticipated by Katariya. Claims 2, 9-11, and 13-17, remain rejected under 35 U.S.C. 103(a) as being unpatentable over Katariya in view of Sandford. Claims 1, 2, and 8, remain rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.
3. Claims 1-20 remain pending in the case. Claims 1, 3-9, 12, 13, 18, and 19, are independent claims.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 1-2, and 8 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.**

The claims are not directed to statutory subject matter because the claimed subject matter:

- (1) does not fall within one of the four statutory classes of inventions under § 101;
- and/or
- (2) falls, by analogy, within the printed matter exception to § 101.

Data structures do not fall within one of the four statutory classes of invention under § 101: process, machine, manufacture, and composition of matter. A data structure is clearly

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neither a "process" nor a "machine." With regard to the other statutory classes, the Supreme Court in Diamond v. Chakrabarty, 206 USPQ 193 (S. Ct. 1980), has defined a "manufacture" as "the production of articles for use from raw materials prepared by giving to these materials new forms, qualities, properties, or combinations whether by hand labor or by machinery" and has defined a "composition of matter" as "all compositions of two or more substances and ... all composite articles, whether they be results of chemical union, or of mechanical mixture, whole describe a data structure stored in a computer system. Accordingly, like printed matter "stored" on a sheet of paper, a or whether they be gases, fluids, powders, or solids." Id. at 195-196. Clearly, a data structure, per se, cannot be considered a "manufacture" since a data structure is not produced from raw materials and has no tangible, physical form or structure. Likewise, a data structure cannot be considered a "composition of matter" since a data structure is not a composition of substances or composite articles as contemplated by the Supreme Court. Accordingly, since a data structure does not fall within one of the four statutory classes of inventions under § 101, the claims are not directed toward statutory subject matter.

Lastly, a data structure is considered non-statutory subject matter by analogy to the "printed matter" exception under § 101. See In re Miller, 164 USPQ 46, 49 (CCPA 1969). Like printed matter, a data structure, in and of itself, is merely an arrangement of data and nothing more. Furthermore, claims drawn to printed matter may be non-statutory even though the claims recite the structure on which the printed matter is printed:

The *mere arrangement* of printed matter on a sheet or sheets of paper, in book form or otherwise, does not constitute "any new and useful art, machine, manufacture, or composition of matter," or "any new and useful improvements

thereof," as provided in section 4886, of the Revised Statutes [the predecessor to 35 U.S.C. § 101].

(emphasis in original). In re Russell, 9 USPQ 181, 182 (CCPA 1931). At best, the claims as a data structure stored in a computer system fails to present statutory subject matter.

As per claims 1-2 and 8: A data format describing a document are mere arrangement of data.

Claim Rejections - 35 USC § 102

6. **The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:**

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 3-8, 12, 17, 18, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Katariya et al., U.S. patent No. 6,549,897 B1 – filed Dec. 17, 1998.**

Regarding independent claims 1 and 8, Figure 1 of Katariya discloses a data format describing a document, including document data [101] and document intent information said document intent information provided as a set of quantitative values [114c] indicative of relative importance of document properties (Col. 2 lines 24-29).

Regarding independent claim 3, Figure 1 of Katariya discloses a document processing system, operative to process documents [110] described in a data format including document data [102] and document intent information [114], said document processing system including quantitative intent capture capabilities [115].

Regarding independent claim 4, Figure 1 of Katariya discloses a document processing system, operative to process documents described in a data format [corpus 100] and document intent information [114], said document processing system providing quantitative intent representation and transmission capabilities (Col. 2 lines 13-20 and 40-43).

Regarding independent claim 5, Figure 1 of Katariya discloses a document processing system, operative to process documents [110] described in a data format including document data [102] and document intent information [114], said document processing system including quantitative intent-based processing capabilities ([114], Col. 6 lines 5-16).

Regarding independent claim 6, Figure 1 of Katariya discloses a document processing device [110], operative to process documents described in a data format [100] including document data [102] and quantitative document intent information [114], said document processing device [110] comparing document processing capabilities [116] with quantitative document intent information [114c] to determine optimum processing of said document [115], whereby creator processing intents is retained (Col. 6 lines 24-30).

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Regarding independent claim 7, Figure 1 of Katariya discloses an intent capture device, operative to express documents described in a data format including document data [terms 102] and quantitative document intent information [114c], said intent capture device producing the quantitative document intent information either from interaction with the user or by inference from the documents (Col. 6 lines 24-30).

Regarding independent claim 12, Figure 1 of Katariya discloses a document indexing and retrieval system [110], for storing documents [100] described in a data format including document data [102] and quantitative document intent information [114], including a document storage device [Memory 111]; a document indexing system (Col. 5 line 45), indexing documents in accordance with quantitative document intent information [114]; a document retrieval system, retrieving document [115, 116].

Regarding independent claim 18, Fig. 1 of Katariya discloses a document using system, presenting a document described in a data format [100] including document data [102] and quantitative document intent information [114], including a user interface [113], at which quantitative document intent information [114] may be specified by a document user [116].

Regarding independent claim 19, Figure 1 of Katariya discloses a document using system, presenting a document described in a data format including document data [102], and quantitative document intent information [114], specified by a document creator including: a document using system user interface [110] receiving document user quantitative intent information [114] (Col. 6 lines 5-7); a document using system document processor [115], combining document creator quantitative document intent information [114], and document user

quantitative document intent information [116], prior to presenting the document (Col. 6 lines 25-30).

Regarding dependent claim 20, Figure 1 of Katariya discloses wherein the document using system processor [115] applies a set of reconciliation rules [114a, 114b] to the document creator quantitative document intent information [114c], and document user [116] quantitative document intent information [114c], in order to determine the appropriate combination thereof ([115] and Col. 4 lines 36-39).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 2, 9-11, and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katariya et al. U.S. Patent No. 6,549,897 B1 - filed Dec. 17, 1998 in view of Sandford, II et al. U.S. Patent No. 6,021,196 - filed May 26, 1998.**

Regarding dependent claim 2, Katariya et al. as applied to claim 1 above, discloses every aspect of applicant's claimed inventing except for the quantitative values formatted as a document intent vector.

Figure 1 of Sandford, II et al. discloses the intent information quantitative values [Truecolor pixel color values] are formatted [12, 13a] as a document intent vector [10a].

Katariya et al. And Sandford are analogous because they both related to quantitative (numerical) values. Therefore, it would be obvious to one having ordinary skill in the art at the time the invention was made to have incorporated Sandford's formatted values into Katariya's quantitative values for the purpose of outputting the modified publication quality digital image into a file format specified for the modified publication quality digital image (Col. 3 lines 14-17).

Regarding independent claim 9, Combination of Katariya et al. and Sandford, II et al. discloses a document creation system, creating a document described in a data format including document data (Katariya, Fig. 1 [102]) and quantitative document intent information (Katariya, Fig. 1 [114c]), including a user interface (Sandford, Fig. 1 [10a]), at which document data (Sandford Fig. 1 [10]) and quantitative document intent information may be entered and displayed (Sandford, Col. 4 lines 9-10); a document editor (Sandford, Fig. 1 [11-14], generating and applying document data (Sandford, Fig. 1 [10]) and quantitative document intent information to a stored document file (Sandford, Fig. 1 [15], Col. 4 lines 12-18); a document formatter (Sandford, Fig. 1 [12, 13a]), using said document data (Sandford, Fig. 1 [10]) and quantitative document intent information to format the document, for subsequent display at said user interface (Sandford, Fig. 1 [10a], Col. 4 lines 9-22).

It would be obvious to one having ordinary skill in the art at the time the invention was made to have incorporated Sandford's formatted values into Katariya's quantitative values for the purpose of processing the publication quality digital image in order to modify its quality (Col. 3 lines 32-33).

Regarding dependent claim 10, combination of Katariya and Sandford as applied to claim 9 above, Figure 1 of Sandford discloses wherein said display at said user interface

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interactively occurs during document creation (Col. 4 lines 1-22).

Regarding dependent claim 11, combination of Katariya and Sandford as applied to claim 9 above, Figure 1 of Sandford discloses wherein during document creation, said user interface displays examples [10a] of the effects of examples of quantitative document intent information [steps 11-15], which examples are selectable [13a and 12] via said user interface to there apply said quantitative document intent information (Col. 4 lines 1-22).

Regarding independent claim 13, Combination of Katariya et al. and Sandford, II et al. discloses a method of formatting (Sandford, Fig. 1) a document for use at a document using device, wherein the document includes document data (Katariya, Fig. 1 [101]) and (Sandford, [10 digital image data]) and document intent information (Katariya, Fig. 1 [114c]) and (Sandford, [Truecolor-format image], Col. 4 lines 4-5), said document intent information provided as a set of quantitative values indicative (Katariya, Fig. 1 [114c]) and (Sandford, Col. 4 line 9) of relative importance of document properties (Katariya, Col. 2 lines 24-29) and (Sandford, Col. 4 lines 9-22); said document using device using the formatted document (Sandford, Fig. 1 [13a, 12]) in accordance with said document usage capabilities and quantified intents (Sandford, Fig. 1 [11-15]); and said document formatting (Sandford, Fig. 1 [13a, 12]) for said document using device depending on said document intents (Sandford, Fig. 1).

Regarding dependent claim 14, combination of Katariya and Sandford as applied to claim 13 above, Figure 1 of Sandford discloses wherein said formatting provides a closest possible match (see [13a, 12] and [10a], they are closest possible match) between effective quantified intents of the formatted documents [13a and 12], formatted for said document using device [11-15] and said document intent information (Sandford, [Truecolor-format image], Col.

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4 lines 4-5).

Regarding dependent claim 15, combination of Katariya and Sandford as applied to claim 14 above, Figures 2A, 2B, and 3 of Sandford discloses wherein said effective quantified intents are calculated from measurable intent properties of said formatted document (Sandford, Col. 5 lines 32-56).

Regarding dependent claim 16, combination of Katariya and Sandford as applied to claim 15 above, Figure 1 of Sandford discloses wherein said measurable intent properties of said formatted documents [13a and 12] depend on formatting decisions resulting [10a] from document intent information of the document (Col. 4 lines 4-22).

Regarding dependent claim 17, combination of Katariya and Sandford as applied to claim 13 above, Fig. 1 of Sandford discloses where the measurable intent properties ([Truecolor image pixel color component values] Col. 4 lines 9-12) are dependent on the document using device ([11, 12] Col. 4 lines 4-10).

Response to Arguments

10. Applicant's arguments filed 8/2/2004 have been fully and carefully considered but they are not persuasive.

Applicant argues on pages 9-11 of the amendment that the document format produces a useful, concrete, and tangible result. Furthermore, the Applicant states the document format has practical utility and is, therefore, statutory subject matter. The applicant utilized In re Lowry, 32 U.S.P.Q.2d 1031 (Fed. Cir. 1994) "directed to a memory containing stored information, as a whole, recited an article of manufacture," and concluded that the claimed invention was statutory

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subject matter. *Id.* at 1033. However, the Examiner points out that Lowry fails to describe similar document data methods as that described in 1, 2, and 8. Therefore, the argument brought forward by the Applicant fails to provide a reasonable description or reasoning as to how the data format imparts functionality. Functional descriptive material consists of data structures and computer programs which *impart functionality* when encoded on a computer-readable medium. Non-functional descriptive material, on the other hand, includes but is not limited to music, literary works, and a compilation or mere arrangement of data. The Examiner believes citing Lowry fails to provide a proficient description of Applicant's invention. Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

Applicant argues on pages 12 and 13 of the amendment that the reference, Katariya, fails to teach or suggest all limitations of claim 1. Applicant further states that Katariya does not teach document intent information and quantified document information. The Examiner notes that (as presently claimed), Katariya teaches identification of document data within various document

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formats. The phrase document importance methods taught by Katariya provide a proficient means for determining the importance of data based on algorithms that generate numerical values for each term in a document. The applicant fails to provide a sufficient description of the term *intent information* within the limitations of the claim. Because the claim limitations are to be given their broadest reasonable interpretation within the scope of the art, the phrase-document importance methods of Katariya provide a reasonable interpretation of the independent claim. The Applicant points to the specification for a clear definition of the word intent information, however, the Examiner disagrees with the Applicant and believes the broad description fails to provide a proficient example. The specification mentions various descriptions of the term, but falls short of a detailed definition. More specifically, the Examiner points to page 2 of the Specification, lines 8-12. The Specification states, "certain document design intent, then, is also expressed in the relative importance of the various properties". Various properties do not provide one of ordinary skill in the art with a detailed description of the intent information. Also, the Examiner points to page 6, lines 23-30. The specification states, "In determining the best decisions, and in one possible embodiment, a fast simple approach for analyzing document intents is to consider each decision independently". The claim language fails to distinctly point out the functionality of the intent information within the claim. As presently claimed, the independent claim fails to preclude the user from utilizing the phrase-document methods of Katariya to teach the intent information.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

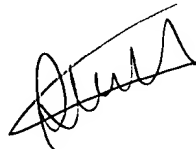
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Ludwig whose telephone number is 703-305-8043. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 703-308-5465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML
October 27, 2004



STEPHEN S. HONG
PRIMARY EXAMINER